

What is claimed is:

1. An electrode assembly for a lithium ion cell, comprising:
a battery unit having a positive electrode plate, a separator and a negative electrode plate
which are sequentially stacked and wound;

5 a positive electrode lead that is electrically coupled to the positive electrode plate and is
led from the positive electrode plate; and

a negative electrode lead that is electrically coupled to the negative electrode plate and
has a current interrupter which causes disconnection when an over-current flows.

10 2. The electrode assembly of claim 1, wherein the current interrupter is led from the
negative electrode plate and has a cross-sectional area which is smaller than a cross-sectional
area of an adjacent portion of the negative electrode lead.

3. The electrode assembly of claim 1, wherein the cross-sectional area of the current
15 interrupter of the negative electrode lead is reduced by forming notches opposite to one another
along both edges of the current interrupter.

4. The electrode assembly of claim 2, wherein the cross-sectional area of the current
interrupter of the negative electrode lead is reduced by forming trenches opposite to one another
20 across two surfaces of the current interrupter.

5. The electrode assembly of claim 2, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by making the thickness of the current interrupter smaller than that of an adjacent portion of the negative electrode lead.

5 6. The electrode assembly of claim 2, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by forming a hole in the negative electrode lead.

7. The electrode assembly of claim 2, wherein the cross-sectional area of the current
10 interrupter is about 0.2 to about 0.9 times that of an adjacent portion of the negative electrode lead.

8. The electrode assembly of claim 1, wherein the negative electrode lead is made of copper.

15 9. The electrode assembly of claim 1, wherein the negative electrode lead is made of nickel.

10. A lithium ion cell, comprising:
20 an electrode assembly for a lithium ion cell comprising a battery unit having a positive electrode plate, a separator and a negative electrode plate which are sequentially stacked and wound, a positive electrode lead that is electrically coupled to the positive electrode plate and is led from the positive electrode plate, and a negative electrode lead that is electrically coupled to

the negative electrode plate and has a current interrupter which causes disconnection when an over-current flows;

a can, the can accommodates the electrode assembly; and

a cap plate welded to an upper end of the can and having a negative electrode terminal

5 electrically coupled to the negative electrode lead of the electrode assembly.

11. The lithium ion cell of claim 10, wherein the can is cylindrical.

12. The lithium ion cell of claim 10, wherein the can is rectangular.

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13. The lithium ion cell of claim 11, wherein the current interrupter is led from the negative electrode plate and has a cross-sectional area that is smaller than that of an adjacent portion of the negative electrode lead.

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14. The lithium ion cell of claim 12, wherein the current interrupter is led from the negative electrode plate and has a cross-sectional area that is smaller than that of an adjacent portion of the negative electrode lead.

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15. The lithium ion cell of claim 13, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by forming notches opposite to one another along both edges of the current interrupter.

16. The lithium ion cell of claim 14, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by forming notches opposite to one another along both edges of the current interrupter.

5 17. The lithium ion cell of claim 13, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by forming trenches opposite to one another across two surfaces of the current interrupter.

10 18. The lithium ion cell of claim 14, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by forming trenches opposite to one another across two surfaces of the current interrupter.

15 19. The lithium ion cell of claim 13, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by making the thickness of the current interrupter smaller than that of an adjacent portion of the negative electrode lead.

20 20. The lithium ion cell of claim 14, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by making the thickness of the current interrupter smaller than that of an adjacent portion of the negative electrode lead.

21. The lithium ion cell of claim 13, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by forming a hole in the negative electrode lead.

22. The lithium ion cell of claim 14, wherein the cross-sectional area of the current interrupter of the negative electrode lead is reduced by forming a hole in the negative electrode lead.